

ADJUSTABLE COMPUTER CASE SUPPORT

FIELD OF THE INVENTION

5 The present invention relates to an adjustable computer case support, and more particularly to a computer case support having a bottom frame that could be adjusted to different inclinations and different widths.

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BACKGROUND OF THE INVENTION

A personal computer, particularly a desktop computer, typically includes a computer case in which important components of the computer, including the main board 15 and the hard disk, are mounted. While the computer case is normally positioned on a desktop, it may also be positioned below the desktop for a user to effectively utilize the space above the desktop. There are developed different types of supports for supporting 20 a computer case that is not positioned on the desktop. Such supports may be connected to an underside of the desktop or independently located at a selected place. In either case, a user has to bend over to operate the power on/off button or to insert or eject a disk when 25 the computer case is positioned on the support. That is, the conventional computer case supports are not

ideally designed to meet the ergonomics.

Taiwanese Patent Application No. 86220488 discloses a universal stand for computer case. The universal
5 stand includes first and second leg frames pivotally connected to each other at middle points thereof. Pads and stop bars are provided at outer ends of the two leg frames. By best adjusting an angle contained between the two intersected leg frames, the stand may
10 stably support a computer case thereon with the stop bars bearing against two lateral sides of the computer case. The universal stand only allows the computer case to horizontally position thereon, and a user has to bend over to operate the computer case. Although it
15 is possible to increase the number of pads provided at the ends of the leg frames to increase the height of the stand, the stand tends to unstably swing when the considerably heavy computer case is positioned thereon.

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Taiwanese Patent Application No. 88209834 discloses a universal computer case support mainly including a base having supporting members provided at four corners thereof. The supporting members may be pivotally turned and have stop members provided thereon. A
25 receiving space defined by the four supporting members

may be adjusted by turning the supporting members to desired positions, so that the universal support may be used to stably support differently sized computer cases with the stop members bearing against sidewalls 5 of the computer case positioned thereon. The base is mounted at four corners with casters to allow a user to move the universal support easily. However, the universal computer case support also horizontally supports a computer case thereon, and a user has to 10 bend over to operate the computer case horizontally supported on the base.

It is therefore tried by the inventor to develop an adjustable computer case support having a bottom frame 15 that may be adjusted to an inclination for a user to operate a computer case positioned thereon in a most comfortable manner. The bottom frame may also be adjusted to different width for supporting differently sized computer cases.

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SUMMARY OF THE INVENTION

A primary object of the present invention is to provide an adjustable computer case support, in which a bottom 25 frame for supporting a computer case thereon is located between two side frames with a rear end thereof pivotally

connected to rear ends of the two side frames, so that
the bottom frame may be set to a desired inclination
by raising or lowering a front end thereof before
detachably connecting the front end to the two side
5 frames.

Another object of the present invention is to provide
an adjustable computer case support, in which a bottom
frame located between two side frames for supporting
10 a computer case thereon includes a width-adjusting
member and two supporting members movably connected
to two lateral sides of the width-adjusting member,
so that the bottom frame may be adjusted to different
widths for supporting differently sized computer cases.
15 In an embodiment of the present invention, the
width-adjusting member is an X-type bracing including
two superposed and intersected braces that are
pivotally connected to each other at respective middle
points.

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BRIEF DESCRIPTION OF THE DRAWINGS

The structure and the technical means adopted by the
present invention to achieve the above and other objects
25 can be best understood by referring to the following
detailed description of the preferred embodiments and

the accompanying drawings, wherein

Fig. 1 is an assembled perspective view of an adjustable computer case support according to a first embodiment
5 of the present invention;

Fig. 2 is an exploded perspective view of Fig. 1;

Fig. 3 shows a bottom frame of the adjustable computer
10 case support of Fig. 1 is adjusted to a reduced width;

Fig. 4 shows the adjustable computer case support of
Fig. 1 having a computer case supported thereon;

15 Fig. 5 shows the bottom frame of the adjustable computer
case support of Fig. 1 is adjusted to a horizontal
position;

Fig. 6 is an assembled perspective view of an adjustable
20 computer case support according to a second embodiment
of the present invention; and

Fig. 7 is an assembled perspective view of an adjustable
computer case support according to a third embodiment
25 of the present invention.

"DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Please refer to Figs. 1 and 2 that are assembled and exploded perspective views, respectively, of an 5 adjustable computer case support 1 according to a first embodiment of the present invention. As shown, the computer case support 1 mainly includes two substantially triangular side frames 11, 12 respectively formed from a curved front member 111, 121, a rear member 112, 122, and a lower member 113, 10 123. The curved front members 111, 121 are provided at respective inner front portion with a line of spaced through holes 111a, 121a, and at respective rear end with a pivotally rotatable right-angled bracket 111b, 15 121b. The lower members 113, 123 are provided at respective inner side at predetermined positions with a line of spaced through holes 113a, 123a. Moreover, two pairs of casters 114, 124 are separately connected to lower ends of the front and rear members 111, 112 20 and 121, 122 of the two side frames 11, 12.

The adjustable computer case support 1 also includes a bottom frame 13 located between the two side frames 11, 12. The bottom frame 13 includes two L-sectioned 25 long supporting members 131, 132, and a width-adjusting member 133 for connecting at two lateral ends to the

two supporting members 131, 132.

Each of the two supporting members 131, 132 is provided
on a top surface near a front end thereof with a long
5 slot 131a, 132a, and near a rear end thereof with a
mounting hole 131d, 132d. Two pairs of anti-slip pads
131b, 132b are separately located in front of the long
slots 131a, 132a and behind the mounting holes 131d,
132d. Each of the two supporting members 131, 132 is
10 also provided on a side surface at predetermined
positions with a line of spaced mounting holes 131c,
132c.

The width-adjusting member 133 is an X-type bracing
15 including two intersected braces 133a, 133b in the form
of two long plates pivotally connected to each other
at middle points. The X-type bracing 133 is connected
to the two supporting members 131, 132 by separately
aligning holes provided at outer ends of the two braces
20 133a, 133b with the two long slots 131a, 132a and the
two mounting holes 131d, 132d on the two L-sectioned
supporting members 131, 132, and then extending screws
through the aligned holes to tightly engage with nuts.
To allow moving of the two supporting members 131, 132
25 toward or away from each other, two front ends of the
braces 133a, 133b are loosely screwed to the long slots

131a, 132a to slide along the long slots 131a, 132a, as shown in Fig. 3.

To connect the bottom frame 13 to the two side frames 5 11, 12, first align two of the mounting holes 131c, 132c closest to the rear ends of the side surfaces of the two L-sectioned supporting members 131, 132 with two of the through holes 113a, 123a closest to the rear ends of the lower members 113, 123 of the two side frames 10 11, 12, and then extend screws through the aligned holes 131c, 113a and 132c, 123a to tightly engage with two nuts, so that the two supporting members 131, 132 are pivotally connected at rear ends to the lower members 15 113, 123 near rear ends thereof, allowing the whole bottom frame 13 to be pivotally turnable about a rear end relative to the two side frames 11, 12 to raise or lower a front end of the bottom frame 13 depending on a user's actual need.

20 After an optimal inclination of the bottom frame 13 has been decided, a user may then align any one of the mounting holes 131c, 132c on the side surface of the two L-sectioned supporting members 131, 132 with a suitable one of the through holes 111a, 121a on inner 25 front portions of the curved front members 111, 121, and then tightens the supporting members 131, 132 to

the curved front members 111, 121 of the side frames 11, 12 at the aligned holes 131c, 111a and 132c, 121a with screws and nuts. And, the whole computer case support 1 is ready for use. Fig. 4 shows a computer case 2 is positioned on the rearward and downward inclined bottom frame 13 between the two side frames 11, 12 and prevented by the anti-slip pads 131b, 132b from sliding backward on the bottom frame 13. Meanwhile, the two right-angled brackets 111b, 121b provided at the rear end of the curved front members 111, 121 may be pivotally turned to stably bear against two rear vertical edges of the computer case 2 and prevent the same from sliding backward.

Please now refer to Fig. 5. When it is desired for the bottom frame 13 to horizontally locate between the two side frames 11, 12, simply loosen the screws and nuts tightening the supporting members 131, 132 to the inner front portions of the front members 111, 121 of the two side frames 11, 12, so as to lower the front end of the bottom frame 13. Then, align the two most front mounting holes 131c, 132c on the side surfaces of the L-sectioned supporting members 131, 132 with two most front through holes 113a, 123a on the two lower members 113, 123 of the two side frames 11, 12, and tighten the two supporting members 131, 132 to the two lower

members 113, 123 with screws and nuts via the aligned holes. The bottom frame 13 is now horizontally positioned between the two side frames 11, 12.

5 With the above arrangements, the bottom frame 13 may be adjusted not only to different inclinations, but also to different widths depending on the actual width of a computer case to be supported thereon. The computer case support of the present invention therefore provides a high flexibility in dimensions for the user to select an operating position best suitable for him.

Fig. 6 shows an adjustable computer case support according to a second embodiment of the present invention. In the second embodiment, the adjustable computer case support includes two substantially triangular side boards 11', 12', each of which has an L-sectioned lower edge. Two pairs of casters 114, 124 are separately screwed to front and rear ends of the L-sectioned lower edges of the two side boards 11', 12'. The adjustable computer case support of the second embodiment has a bottom frame 13 structurally and functionally similar to that in the first embodiment and is mounted between the two side boards 11', 12' in the same manner as that in the first embodiment.

The side boards 11', 12' not only enhance the stability of the adjustable computer case support 1 but also provide the support 1 with a beautiful appearance.

5 Fig. 7 shows an adjustable computer case support 3 according to a third embodiment of the present invention. As shown, the adjustable computer case support 3 includes two supporting seats 31, 32, each of which has a sidewall 311, 321 raised from a lateral outer edge. The two supporting seats 31, 32 together define a receiving space between them for a computer case to locate therein. Two backing bars 313, 323 are upward extended from rear ends of the two supporting seats 31, 32 to bear against a rear side of the computer case positioned on the adjustable computer case support 3 and prevent the computer case from sliding backward. The two supporting seats 31, 32 are provided at respective lateral inner edge with internally toothed slots 312 and racks 322. Each of the racks 322 is movably engaged with a corresponding toothed slot 312. A pair of front casters 315, 325 are connected to lower front ends of the two supporting seats 31, 32 via two telescopic legs 314, 324, and a pair of rear casters 315, 325 are directly connected to lower rear ends of the two supporting seats 31, 32. Each of the two telescopic legs 314, 324 includes an inner tube 314a, 324a, and

an outer tube 314b, 324b. Two vertical lines of spaced through holes are correspondingly provided on two opposite sides of each inner tube 314a, 324a and outer tube 314b, 324b. After the inner tubes 314a, 324a have 5 been extended from the outer tubes 314b, 324b by a desired length with the through holes on the inner tubes separately aligned with those on the outer tubes, the inner and the outer tubes may be held in place with screws extended through the aligned through holes on 10 the two opposite sides of the telescopic legs 314, 324, so that front ends of the two supporting seats 31, 32 are set to a desired height.

An overall width of the receiving space between the 15 two sidewalls 311, 321 may be adjusted by moving the racks 322 into the toothed slots 312 by different depth.

The toothed slots 312 and the racks 322 provided in the third embodiment of the present invention are 20 functionally equivalent to the X-type bracing 133 in the first and second embodiments in terms of adjusting an overall width of the computer case support, and the telescopic legs 314, 324 are also functionally equivalent to the curved front members 111, 121 in terms 25 of adjusting the inclination of the computer case support. In a broad sense, any other structural design

that may equivalently achieve the effect of adjusting the width and the inclination of the bottom frame of the computer case support of the present invention shall be considered as an equivalent of the present invention.

- 5 That is, the present invention has been described with some preferred embodiments thereof and it is understood that many changes and modifications in the described embodiments can be carried out without departing from the scope and the spirit of the invention as defined
- 10 by the appended claims.